

Coronavirus Update

Relatively little has changed with respect to the effect of COVID-19 on the giant-screen business since our last issue, so this report will be much briefer than previous ones.

As of mid-October, 100 non-multiplex GS theaters in 20 countries have reopened, 47% of the world total of 211 screens. Note that this total has dropped by two since our last issue with the permanent closure of two theaters, in part because of the pandemic. (*See item on page 4*) This leaves 93 theaters (44%) still closed by the coronavirus. (We were unable to determine the status of another 18 theaters.)

In comparison, in mid-August 87 giant-screen theaters in 15 countries had reopened and 108 remained closed, with 19 undetermined.

Forty institutions have reopened their buildings without reopening their GS theaters.

The U.S. continues to lead in the number of non-multiplex theater reopenings, with 46; the next closest country is Japan, with 17.

About ten GS theaters have reopened only to close again. For most, this was

(*see COVID on page 2*)

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The Cosmosphere Story

by Diane Carlson

On May 22, 2020, the Carey Digital Dome Theater at the **Cosmosphere** in Hutchinson, KS, a community of 40,000 in the heart of the state, became one the first giant-screen theaters to reopen during the COVID-19 pandemic.

When it originally opened in October 1980, it was one of the first IMAX Dome theaters. I have fond memories of coordinating a board meeting of the International Space Theater Consortium (precursor to the **Giant Screen Cinema Association**) there in 1989. We were welcomed by Kansas' director of tourism, because the theater was one of the state's biggest tourist attractions.

The key player in the history of the Cosmosphere was **Patty Carey**, a community volunteer with a passion for education and astronomy. The space center's history began in 1962, when Patty set up a used planetarium projector and rented folding chairs in the poultry exhibition hall of the local county fairgrounds. The planetarium was offered a permanent home by Hutchinson Community College in 1966, and in 1980 it was expanded to 35,000 square feet (3,200 square meters) and became the Kansas Cosmosphere and Discovery Center. A few years later it was renamed the Kansas Cosmosphere and Space Center. In 1997 another major expansion tripled its floor space. Known today simply as the Cosmosphere, it boasts the largest combined collection of U.S. and Soviet space artifacts in the world.

In July 2020, I spoke about the Cosmosphere with three key players in its history: GS veteran **Mary Jane Dodge**, (*see COSMOSPHERE on page 12*)

GSCA Virtual 2020

The **Giant Screen Cinema Association** held its first virtual conference, dubbed **Virtual 2020**, Sept. 22-24, the same dates it had originally set for the annual conference and trade show it had planned to hold in Chicago before the pandemic hit. The online meeting offered some of the features of a standard, in-person conference, including six Professional Development sessions, an Innovations presentation on drones, two keynote speeches, and presentations on Films in Production and Development.

Since New Films couldn't be shown on a giant screen, registered participants were provided with links to view the films via secure servers starting a week before the conference.

The association scheduled "connection sessions" to give sponsors a chance to connect with conferees in place of the trade show and sponsored parties, and "virtual happy hours" each evening to provide free-form socializing that otherwise would have happened at bars, restaurants, and parties. These were done with open Zoom calls that any registered participant could join, and in some cases more than 100 people did.

No awards presentation was held, since the pandemic has significantly reduced the number of new film releases over the previous six months.

State of the GSCA

GSCA chair **Alan Nursall**, of the **Telus World of Science Edmonton**, opened the conference with a report on the state of the association. He explained that the group had made progress on many of its strategic goals in 2019 and early 2020, but that "everything changed in March, and

(*see GSCA on page 6*)

Founded 1997 as MaxImage

Sept.-Oct. 2020
Vol. 23, No. 6

Editor/Publisher
James Hyder

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Published 8 times a year by
Cinergetics, LLC, and distributed
by first class mail.
Printed in the USA.

ISSN 1532-5504

Subscriptions: US\$397
Outside North America: US\$447
All payments must be made in
US funds.

Substantial discounts are
available for multiple subscrip-
tions to the same address.

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(from **COVID** on page 1)

because local authorities reacted to worsening conditions, although in two cases it was for upgrades or renovations. As we reported in the last issue, **McWane Science Center** in Birmingham, AL, is in the process of changing from IMAX 15/70 film to the IMAX laser dome system. And the **Virginia Air and Space Center** is renovating its IMAX theater and a major exhibition hall (see item on page 20). Both are expected to reopen in November.

Another special case is the **National Naval Aviation Museum** on the Naval Air Station at Pensacola, FL. The base was closed to the public after a terrorist shooting last winter, and then the pandemic shut the museum and its GS theater completely. (As if that weren't enough, Hurricane Sally hit in early September, doing more damage to the base than had been anticipated. The museum building experienced only superficial damage.)

In October active duty military members and families were allowed back into the museum and theater, but not the general public. Manager **Phil Crabtree** tells *LFX* that the museum, base officials, and local and state government agencies are working on a plan to create an "enclave" for the museum with fencing and gates that would permit public access without compromising base security. Although the plan could take a couple of years to implement, Crabtree is hopeful that once it is approved the building will be reopened to the public.

Multiplexes

On the multiplex side, China is ahead on reopening, with at least 419 IMAX theaters reopened as of October, compared to 197 in the U.S. This number does not include 60 IMAX in **Regal Cinemas** locations that had reopened in September, but later closed with the chain's total shutdown on Oct. 8.

Regal and its U.K.-based parent company **Cineworld Group** announced in early October that they would close all of their theaters in the U.S. and Britain. This included 7,000 screens at 536 theaters in 42 U.S. states, of which 96 are IMAX. In the U.K., 127 Cineworld and Picturehouse locations (20 with IMAX screens) were shuttered. The closures affect 40,000 American workers and 5,500 British employees.

Cineworld's CEO, **Moshe "Mooky" Greidinger**, said in a press release, "This is not a decision we made lightly, and we did everything in our power to support safe and sustainable reopenings in all of our markets — including meeting, and often exceeding,

local health and safety guidelines in our theaters." He pointed out that in locations like New York, cinemas have not been allowed to reopen, even though other businesses like restaurants, bowling alleys, and casinos have. This despite the fact that "there has been no evidence to date linking any COVID cases with cinemas."

Cineworld's decision came after *Tenet*'s lukewarm performance (see item on page 20) led the producers and distributors of the next **James Bond** installment, **No Time to Die**, to once again delay that film's release, most recently set for November, to April 2021, a year after its original opening date. Similarly, **Wonder Woman 1984** was moved from October to December. And **Disney** has announced that it would release **Mulan** directly to its streaming platform, Disney+. *Mulan* had been expected to run in IMAX theaters; *Wonder Woman* and *No Time to Die* still are.

These changes led **Imax Corporation** to furlough 150 employees in the U.S., Canada, and Europe for at least two months, starting in late October.

GS film releases

The pandemic has played havoc with the release schedules for GS films as well. At the start of the year, we expected 16 original GS films to premiere during 2020. Only four opened for less than a month on a handful of screens before North American and European theaters closed in mid-March:

<i>Dinosaurs of Antarctica</i>	Giant Screen Films
<i>Into America's Wild</i>	MacGillivray Freeman
<i>Sea Lions: Life by a Whisker</i>	K2 Studios
<i>Ancient Caves</i>	MacGillivray Freeman Films

They have returned to some of the theaters that have reopened, but obviously have not had anything like the exposure their producers and distributors expected.

Two more films have opened this fall, and three other titles are expected by the end of the year:

<i>Angkor: Lost Empire of Cambodia</i>	K2 Studios
<i>Asteroid Hunters</i>	Imax Corporation
<i>Antarctica: Into the Unknown</i>	SK Films
<i>Astronaut: Ocean to Orbit</i>	MacGillivray Freeman
<i>The Search for Snow</i>	nWave Pictures

The remaining seven projects expected this year have been pushed back to 2021 or 2022, and this in turn has delayed other films that had been set for next year. The In Production listings on pages 10-11 display the changed release dates in bold face.

Three Lawsuits V. Imax Corporation

Imax Corporation is a defendant in three recently filed lawsuits. In the most recent, **Margarita Hernandez**, a former staff lawyer, alleges that the company fired her in January because she is a Latina and because Imax wanted younger, less costly employees.

According to her suit in Los Angeles Superior Court, Hernandez, 57, joined Imax in 2016 and was made a vice president in 2017, handling distribution agreements with major studios, among other duties. Her suit claims that the company did not provide her with resources that her predecessor and peers had, forcing her to work 70–80 hours a week; denied her request for medical leave for a painful foot injury; hired a white man to the same position, treated him better and paid him more, even though he was less experienced; forced her to hire unqualified junior lawyers with personal connections to other employees; fired her after she took time off to care for her ailing mother; failed to pay the full amount of salary and bonus she was due; and after she was fired hired a replacement who was 22 years younger. She also claims that Imax employees made disparaging remarks about “people with accents,” and “pilfered”

Corrections

In the second paragraph of our article on the coronavirus in the Summer issue, we incorrectly reported that 78 non-multiplex theaters were still closed as of mid-August. The correct number was 108, representing 51% of the world's total. The number originally given did not include closed theaters within institutions that had reopened.

In the same article we incorrectly referred to Salt Lake City's **Clark Planetarium** as a “70-foot (21-meter) IMAX Dome.” The Clark has two theaters: its Hansen Dome Theater is a 55-foot (16.7-meter) dome with an **Evans & Sutherland** Digistar 6 fulldome system. Its Northrop Grumman IMAX Theatre is a flat-screen auditorium with an IMAX digital projection system and a screen measuring 55x70 feet (16x21.3 meters).

some of her personal belongings from the office while she was working from home.

Hernandez' suit makes 18 charges, including discrimination and harassment on the basis of national origin, race, age, and disability, wrongful termination, and violation of the Equal Pay Act.

In May, **Alfred Chak**, 44, formerly EVP of the entertainment division, filed a suit making similar charges regarding his firing after he told the company that he was about to have surgery to remove potentially malignant thyroid tumors. According to the complaint, Chak had been with the company since 2017 and in early January 2020 informed his supervisor, **Megan Colligan**, president of Imax Entertainment, that he would be out for surgery at the end of the month. In a meeting Colligan told Chak that it was “probably a good time” to discuss the elimination of his role at the company... and that this was a ‘perfect opportunity’ [for him] to recover from the surgery without the stresses of work,” according to the complaint. At first, Chak was told he had to be out of his office in four days; Imax later offered to extend his employment through April 10 if he agreed to “sign a full and complete release from all employment claims.” He refused.

The suit alleges that Imax knew about Chak's medical condition before he disclosed it, by reviewing his personnel file and work calendar, and possibly from another employee. He had not been told previously that the company had been planning to eliminate his position.

The suit makes 15 charges against Imax, including disability discrimination and harassment, age discrimination and harassment, wrongful termination, failure to pay wages, and also charges Imax, Colligan, and other unnamed defendants with intentional and negligent emotional distress.

In its answer to the complaint, Imax made 43 affirmative defenses denying all of Chak's allegations and causes of action.

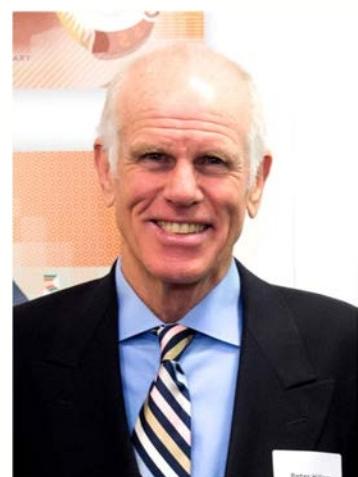
In the third suit, filed in August, **Peter Hillary**, **George Hillary**, and **Alexander Hillary**, the son and grandsons of Sir Edmund Hillary, who, with Tenzing Norgay,

made the first successful climb to the summit of Mount Everest, are suing **Bron Studios** and Imax over an aborted documentary about their family. TheHillarys allege that Bron told them it would co-produce the film with Imax, and persuaded them to forgo employment and educational opportunities to work on the project. The Bron crew filmed the Hillary grandsons in Nepal in difficult and dangerous situations in October 2019. Imax advised the crew on shooting for the format, and reviewed and gave notes on the footage as it was captured.

The complaint alleges that in January 2020 the Hillarys were told that Imax had hired a new head of documentaries and that production was on hold for two weeks. Sixteen days later, Bron terminated its contract with the Hillarys without cause, informing them that it had not entered into a co-production agreement with Imax, and that Bron therefore owned all rights for the work the Hillarys had done to date, including the Nepal footage.

The Hillarys' suit charges Bron with breach of contract, and both Bron and Imax with promissory estoppel, asserting that Imax had “represented to them that it would co-produce the film with Bron,” and that the Hillarys had no way of knowing that no such co-production deal had in fact been signed. They also claim that under copyright law they own the copyright to the footage captured. In addition to the copyright they are seeking more than \$500,000 in cash and other damages.

I max declined to comment on any of the cases.



Peter Hillary

THE BIZ

NEWS

Two theaters close permanently

Two GS theaters have announced that they will close permanently, partly as a result of the pandemic.

Planetario Alfa, a science center in Monterrey, Mexico, opened in October 1978, the seventh permanent IMAX installation, and the second IMAX Dome (then known as OMNIMAX) in the world. Its 75.5-foot (23-meter) dome was originally equipped with a **Spitz** STS starball that proved balky, and within a few years the 389-seat theater was only showing 15/70 films.

In early September the **Alfa Foundation** announced that the science center and theater would close permanently as of Sept. 4, and that the foundation would focus on “secondary, preparatory, and professional education.” The press release said that the exhibitions in the science center and the birds in the attached aviary would be donated to other educational institutions.

In New Orleans, the **Audubon Nature Institute** announced in September that it was moving its Butterfly Garden and Insectarium from a location elsewhere in the city to the **Audubon Aquarium of the Americas**, the building that has housed the Entergy Giant Screen Theatre since 1995. The renovation of the aquarium building, expected to begin in November, will include “decommissioning the... theater, allowing space for a 5,000-square-foot [456-square-meter] multi-use events space.”

The 360-seat theater, which opened with an IMAX GT3D film projector and was converted to **Christie** digital projection in 2015, never reopened after being closed by the coronavirus in March.

Omniversum goes E&S digital

Omniversum, the standalone 75.5-foot (23-meter) dome theater in The Hague, Netherlands, has installed an **Evans & Sutherland** ESX 6.2K system with five

Christie 4K laser projectors, replacing its 36-year-old IMAX 15/70 film projector. It is the world’s first ESX-branded installation. According to E&S, the system has a brightness level of 3.5–4.0 fL and checkerboard contrast ratio of 10:1.

Omniversum’s executive director **Berend Reijnhoudt** tells *LFX* that the conversion was done in June, when coronavirus restrictions would otherwise have severely limited capacity. The upgrade included a new 5.1-channel **Alcons** sound system, and new theater, cove, and emergency lighting. The doghouse was not removed, and the seat count remains unchanged at 296.

Reijnhoudt says he considered laser systems from **Imax Corporation** and **D3D Cinema**, and that each system has its pros and cons, but in addition to its high quality image, the E&S system has the widest dome coverage. Also, its ESXLive real-time visualization system with astronomy data will allow him to expand the weekday day-



Omniversum replaced its IMAX film projector with a five-projector ESX system. Light from two of the new Christie projectors is visible in the windows of the booth.

Photo by Robin Sip

THE BIZ

NEWS

time audience with planetarium-type shows for school groups, which are now only a small fraction of admissions.

The conversion from film to digital was not promoted to the public. "Normally we would have opened with a great show, showing off the capabilities of the system, but Mr. Covid fucked that up. We will promote the content and the new things we will do in the future." Nor was Reijnhoudt concerned about dropping the IMAX system. In the Netherlands IMAX is closely associated with **Pathé** multiplexes, and since Omniplex does not show Hollywood content, it has not traded on the IMAX brand.

BC museum buys IMAX from DCI

The Royal British Columbia Museum in Victoria, BC, Canada, purchased the **IMAX Victoria** theater from its operator **Destination Cinema, Inc.**, effective Aug. 28, for CAD\$3.8 million (US\$2.9 million), using funds from a B.C. government grant. The theater, which is located inside the museum building, has been leased and operated by DCI since opening in 1998. All current employees, including manager **Paul Wild**, will be retained by the museum, and prices and programming will not change.

The purchase is part of a plan to renovate the building and grounds over the next few years, in partnership with the provincial government. Museum COO **Gary Lacey** told local media that "it's always wise to have control of the site," in those circumstances.

The theater, which hosted the 2019 conference of the **Giant Screen Cinema Association**, seats 369 and features a 61x84-foot (18.7x25.6-meter) screen, the largest in the province. It is equipped with an IMAX 4K laser system, which replaced its original 15/70 GT projector in 2016.

GSF gets more NSF funds

Giant Screen Films has received a supplement to its grant from the **National Science Foundation** for an "expanded

outreach program" for its coming GS film **Dinosaurs of Antarctica**, set for release next year. The program is intended to "keep families and learners engaged with theater partners online" by providing a dinosaur-themed digital series, a social media kit, and virtual screenings that theaters can share with visitors at no cost.

Imax certifies digital cameras

Imax Corporation has established a new program to certify select "high-end, best-in-class digital cameras," when combined with the company's DMR process, to use the tag, "Filmed in IMAX." Cameras currently meeting the standard include the Alexa 65 IMAX that **Arri** developed with Imax a few years ago, as well as the Alexa LF and Mini LF; the **Panavision Millennium DXL2**; the **Red** Ranger Monstro; and the **Sony** Venice. Imax will also select rental houses to supply the certified cameras, and will limit the number of films allowed to participate in the program each year.

Katrina Stevens is Tech's new CEO

The **Tech Interactive** in San Jose, CA, has selected **Katrina Stevens** as its fourth president and CEO, replacing **Tim Ritchie**, who became president of the **Museum of Science Boston** earlier this year. Stevens is the first woman to head the 22-year-old science center, and will start working in November.

Stevens has worked in education for 25 years and comes to the Tech from the Chan Zuckerberg Initiative, created by Facebook founder **Mark Zuckerberg** and his wife, **Priscilla Chan**, to "leverage[e] technology, community-driven solutions, and collaboration

to accelerate progress in education, justice and opportunity, and science," according to its Web site. There, Stevens oversaw a \$200 million portfolio of grants as direc-

PERSONNEL

tor of learning science.

Before that she worked in the U.S. Department of Education's Office of Educational Technology under the Obama administration. She also has experience as a consultant, journalist, and classroom teacher. She is currently writing a book about the barriers to motivation, which is due to be published next spring.

Humphrey to head MSI Chicago

Chevy Humphrey, president and CEO of the **Arizona Science Center** in Phoenix, has announced that she has "made the difficult decision to leave [ASC]...to become the new CEO at the **Museum of Science and Industry, Chicago**." She will replace **David Mosena**, who has



Chevy Humphrey

headed MSI for 23 years. Humphrey will be the first woman and the first person of color to lead the 87-year-old museum.

Humphrey joined ASC in 1998, and has served there as director of development, VP of marketing and development, executive VP, interim CFO, and COO before being named president and CEO in 2005. During her tenure she expanded the museum's assets from \$3 million to \$42 million and landed noted exhibitions, including the world debut of "Victoria the T. rex." She is currently chair of the board of the **American Alliance of Museums**.

Humphrey holds an MBA from Northeastern University and is completing a Doctor of Business Administration at Grand Canyon University.

In a post on social media she said, "I will forever cherish my 22 years at the Science Center. I am incredibly proud of the work we've done together, and these years have brought me so much joy and fulfillment."



Katrina Stevens

GSCA's Virtual 2020 Conference



GSCA president Alan Nursall reported on the state of the GSCA.

(from GSCA on page 1)

most of the association's attention turned to survival and support." For the past six months its only two goals have been tactical: creating value for members and implementing sustainable financial practices. GSCA's paid staffers, executive director **Tammy Seldon** and communications and membership director **Kelly Germain**, have taken pay cuts, and "all non-essential activity has been curtailed."

The board has also decided that the Spring 2021 meeting will not be an in-person meeting.

Nursall said that GSCA's annual operating revenues are typically around \$650,000; the 2020 Film Expo, which concluded days before most of the U.S. went into lockdown, netted \$65,000, and Virtual 2020 has netted \$50,000. The association received \$45,000 from the federal Payroll Protection Program, but the pandemic has cut self-generated revenue for the year in half, to \$325,000. "It is a serious situation. We have net assets of about \$250,000; if that drops below \$150,000, the association is in serious peril."

State of the GS Industry

In the months before the conference,

Paul Fraser of **Blaze Cineworks** volunteered on behalf of the GSCA, and with the assistance of GSCA staff, to conduct a massive survey of the association's members on the effects of COVID-19. The survey was customized for the group's three member segments: theaters, producers/distributors, and manufacturers/others, with some questions common to all three. Requests were sent to 230 people, and 112 responded.

He reported that by August about half of the member theaters had reopened, and the survey asked them to compare attendance from their reopening date to July 31 with the same dates in 2019. That period averaged 36 days, and 2020's average attendance was 24% of 2019's. The average number of weekly shows dropped from 50 in 2019 to 31 in 2020, mostly because of the need to clean the theater between shows, and the average number of unique films per week fell from 4.3 to 2.9.

Comparing occupancy rates (the number of tickets sold divided by the number of seats available, without considering capacity restrictions), the average was 24% in 2019 and 12% in 2020, whereas the average limit imposed by governmental guidelines was 29%, indicating that "government capacity limits are not the

problem; lower audience demand is." The financial break-even point was about 35% on average. So even in pre-COVID 2019, at one of the busiest times of the year, theaters were not breaking even.

The pandemic has reduced the average number of films theaters will book in 2021 from 3.8 to 2.7. "This will give our friends in distribution some heartburn," Fraser remarked. With respect to marketing, 25% of theaters do no paid marketing, and of the 75% that do, 13% expect that budget to be cut completely, and 66% expect it to be reduced. Only 10% expected to have more marketing funds in 2021.

Although the number of new releases in 2020 has obviously dropped, the number of films in production has seen small but steady increases between 2019 and 2021. But two-thirds of all films in production were delayed or halted by the pandemic, affecting release dates. Ten percent of productions were canceled completely.

Most GS producers/distributors — "a whopping 84%" — also do work in other media, including television, streaming, and location-based entertainment, which should tend to mitigate the financial impact of the downturn on the GS side.

Similarly, most survey respondents in the third category, manufacturers/others, have diversified businesses and also work in other sectors. The average non-GS portion of these companies is 64%, and one-third of them are expecting that portion to grow in 2021. "So they're expecting to be even less reliant on giant-screen income."

Several survey questions were addressed to all three member segments, including two that asked about the long-term viability of their specific business and about the GS industry overall. For the first question the average confidence level was 6.32 on a scale of one to ten (ten being most confident). Theaters and distributors were slightly more confident than this average and producers were slightly less confident. The confidence index for the industry as a whole was practically the same, at 6.29. Fraser pointed out that in a 2017 survey his company had conducted, theater mem-

bers expressed virtually the same level of confidence as they did this year, "which shows an impressive resilience by our theater colleagues, considering how 2020 has unfolded."

Asked how they expected business to rebound in the next two years, theaters and producer/distributors said they expect to be at about 87% of 2019's business by 2022. Fraser advised, however, that these are "sentiments" rather than "bankable forecasts," because "we've only barely entered the recovery and there are still many unknowns."

The survey indicated that 78% of respondents feel that aspects of the GS business model must change, although there wasn't as much agreement about which aspects or how they should change. But in open-ended questioning, there was also broad agreement that there needs to be more sharing of vital data, such as revenue and attendance, and more and better intra-industry communication.

Fraser closed by saying that he was heartened by the collegiality and willingness to cooperate that members of the GS community continue to exhibit. "If there was ever a time for the GS industry to reimagine how we do business across sectors while building on our appeal to theater audiences, this is it."

Audience Focus session

Three theater marketers made presentations on the theme of "Audience Focus, Marketing, and Data-Driven Action," a session created by Diane Carlson of Giant Screen Cinema Consulting and moderated by Paul Wild of IMAX Victoria.

Caroline Borgudd, marketing manager for Cosmonova, the IMAX Dome theater at the Swedish Museum of Natural History in Stockholm, made a lively presentation, recorded in multiple locations throughout the museum, that outlined results from in-depth interviews with audience members. "If we know what motivates both visitors and non-visitors, and what brings them meaningful experiences, we can truly be a place that brings meaning to them." She found that in the case of families, parents want to get their kids away from the small screens, share something positive and educational as a family,

and get to know their kids better. As one mother explained, "At home, you don't really get so much out of kids. However, when you go out and do things with them, you get to know more about the things that interest them. Things that you may not have gotten to know at home by the kitchen table."

Another key finding was that "one of the most common criteria for choosing between activities was the desire to find something that would entertain both parents and child." This led to the surprising discovery that one of the theater's closest competitors for parents' preference was the neighborhood swimming pool. "At first I thought this was strange. But when you think about what the parents value in terms of connecting with their kids, it makes total sense."

On the other hand, seemingly small factors can turn visitors off: the perception that the museum is too far away, that parking will be a problem, that it's too expensive, that there's nothing new, or that the restaurant is too "messy" and crowded.

Having learned what visitors want, Borgudd recognized that not only does she have to provide it, she has to communicate it through marketing. She also realizes that "the entirety matters. When we look at the experience, we have to look at the *whole* experience and that starts outside the theater."

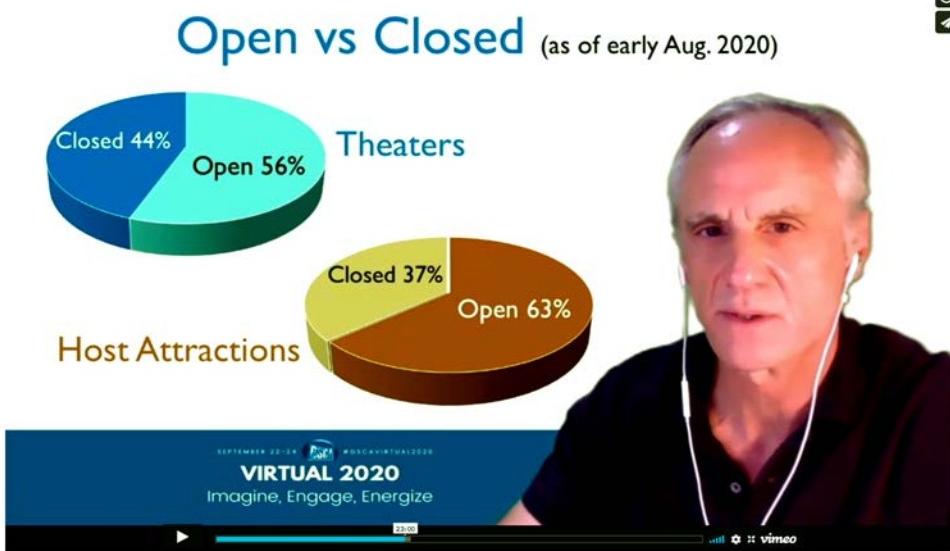
Chris Hurtubise, formerly with COSI Columbus, spoke about analyzing data to make better programming and marketing decisions. By importing data into spreadsheets, managers can answer questions such as, Who is my audience? When do they come? Are there seasonal differences? What do they like to see? And how do I know if my marketing is working?

The ticketing system is the best source of this information. Ticket types (adult, child, senior, etc.) provide broad audience segments that can be further refined by overlaying the theater's film schedule. With numbers for capture rate by film and audience type, 3D vs. 2D performance, and other criteria, it's possible to begin building models of your audience segments. Information from other sources, such as social media and the membership and group sales departments, can further enhance your understanding of your audiences and their preferences.

Hurtubise presented a spreadsheet she compiled for COSI in 2008 that told her that 28% of ticket sales for the GS theater came from members, and they were most likely to come in the fall and winter. "They tended to be local, with children, frequent visitors, and value-minded."

She found that seasonal models were most helpful in determining programming and making marketing decisions. For in-

(see GSCA on page 8)



Blaze Cineworks' Paul Fraser presented the results of his major survey of GSCA members.

(from GSCA on page 7)

stance, summer is the busiest time of the year with fewer members and more out-of-town visitors who buy combination tickets (museum and theater) and tend to prefer “escapist” content. Because they come from further away, advertising to them before they arrive is more difficult and expensive, so in-house signage and up-selling is more effective. She explained the characteristics of the typical audiences for the other three seasons, as well.

The end result for Hurtubise was a “tentpole philosophy” in which she opened one new film in February, before the spring break season started, another at the beginning of the summer, and a third in November.

But in the world of COVID, much of this goes by the wayside, and theaters now have to strategize rebuilding their audiences as they slowly start to reopen. Hurtubise recommends using the insights gained about your audience segments to build predictive models for possible reopenings in fall, winter, or spring, with several sets of scenarios for each season. “I would recommend that your past is your high case, do a middle case, a low case, and an ‘uh-oh’ case.” Work with your team and management to decide which of these is the most likely scenario.

Lea Silver is sales and membership services manager at IMAX Victoria in British

Columbia, Canada. That theater, located in the **Royal British Columbia Museum**, has a unique Annual Passholder program that provides some 20,000 members unlimited documentary screenings (and a large discount on Hollywood films) for a single fee. The program has been running for 16 years, representing an average of more than CAD\$1 million in annual revenue for most of that time. So not only is it a significant income stream, it also represents long-term security for the theater. Passholders also account for 10% of retail revenue and \$120,000 per year in concession sales.

With a 70-80% retention rate, passholders are a loyal bloc that theater management wanted to keep as happy as possible. The most typical passholders are retired couples who live in Victoria and see between seven and eight films a year. (The price of the pass is the equivalent of about four regular tickets.)

One of the main reasons passholders join and renew is the perceived value of the program. “We wanted to ensure that even though we were closed, our passholders would still have a high perceived value from their purchase. So we wanted to give them good, meaty, interesting content so they didn’t feel that they were losing out on anything.”

Another benefit of the pass program is exclusivity. The theater offers many events

and activities only to passholders, and wanted to continue that even after closing for COVID. So they decided to create “behind-the-scenes” live streams exclusively for passholders, featuring interviews with top GS filmmakers. Silver did live interviews with GS filmmakers, including directors **Greg MacGillivray**, **Daniel Ferguson**, and **Michael Dalton-Smith**, as well as sound designer and Victoria resident **Tim Archer**.

Between YouTube and Facebook, the videos got a total of 17,000 views for the eight videos, of which 11% were watched live on YouTube. Considering there was no production or marketing budget for the program, Silver said, “I’m super happy with those numbers.” Since reopening the theater, visiting passholders have said they enjoyed the videos.

Innovation Session: Drones

In a session organized by the GSCA’s Innovation Committee, director and aerial photography expert **Jeff Gaunt**, of Australia’s **Heliguy**, made a presentation on “Why, How, and When to Use Drones for Aerials.” Commercially available drones are generally too light to carry the heavier camera/lens packages that are required for GS films, e.g., the **Sony** Venice. For payloads like this, custom-built drones, made by a specialty drone company, are needed.

Drones are a new kind of tool for filmmakers to use in appropriate situations, but are not necessarily replacements for helicopters. Each tool has its special advantages and disadvantages. In the camera platform continuum from hand-held to Steadicam to dolly to crane, drones can fit in nicely between cranes and helicopters and planes. Drones can easily handle shots that would otherwise require a heavy crane on dolly tracks that was time-consuming and expensive to transport and set up. Drones are cheaper, easier, faster, and more flexible. With a drone, filmmakers can try many more options, and aren’t limited by the need to avoid seeing the dolly tracks.

In general, helicopters are not permitted to fly below 1,000 feet (300 meters) in most locations, whereas drones can fly anywhere from ground level to 400 feet (120 meters). In some circumstances



Caroline Borgudd, of the Swedish Museum of Natural History, gave a lively talk on understanding visitors.



IMAX Victoria's Lea Silver streamed live conversations with GS filmmakers like Greg MacGillivray.

drones can fly higher, and helicopters lower, but such flights may require advance permits. Helicopters are also much more expensive. Two hours' rental of a helicopter with a gimbal-mounted camera, pilot, and camera operator will cost about as much as an ultra-heavy-lift drone does for a full day.

Drones are also much more maneuverable, and able to get into tighter spaces than copters. (Director **Jonathan Bird** used a drone inside a cave for a few shots in *Ancient Caves*.) They can operate in weather conditions, such as low visibility, that would keep a helicopter grounded, and can be taken to remote locations in mountains and jungles that helicopters could not easily reach. Gaunt explained that because of copters' limited fuel capacity and flying range, "I've been in instances where we had to put helicopters on trucks to be able to get them to the location," whereas drones

can easily be carried in a four-wheel-drive vehicle.

Drones' greatest limitation is their limited flight time: about 15 minutes on average, where helicopters can fly continuously for three hours. This is most often an issue in complex shots that require lots of preparation and precise timing. Drones also have to remain in line of sight of the

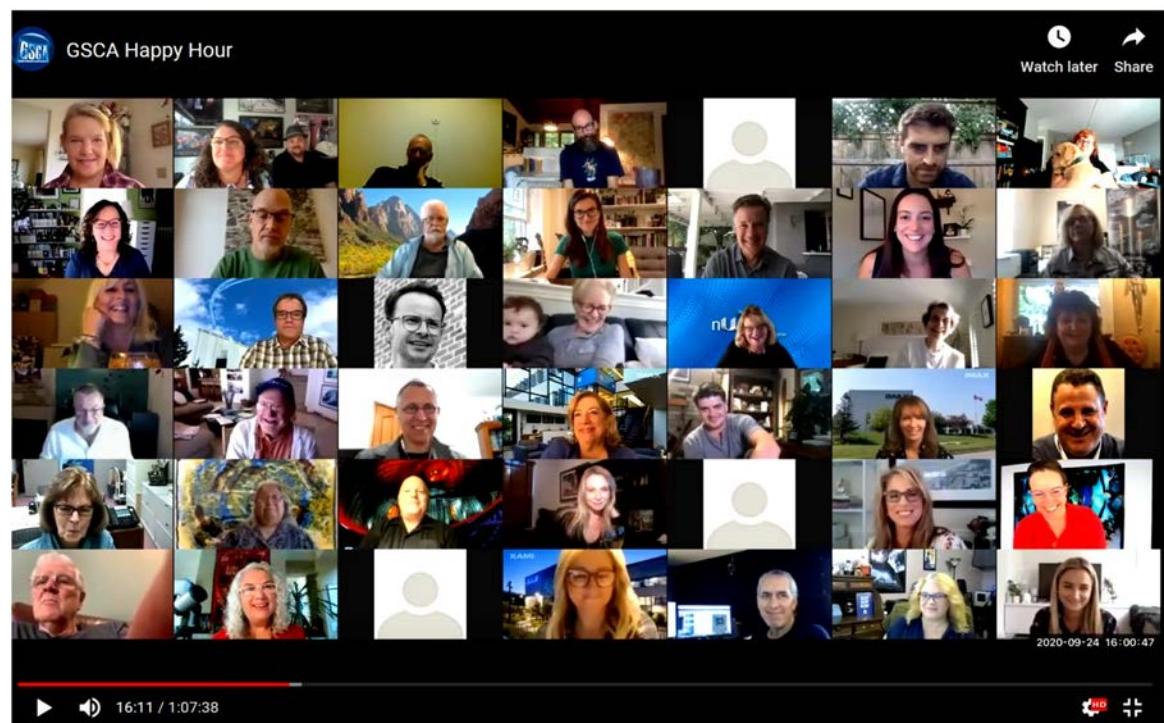
operator, and have a more limited flight distance than helicopters. Depending on the location, drones can generally only fly up to an altitude of 400 feet (120 meters). Flying higher than that, or in certain restricted areas, like near airports, requires official exemptions which must be obtained in advance. Drones also can't fly over populated areas.

Drones can help tell stories in a way that no other tool can. Gaunt illustrated this with a shot that opened with several people talking in a room and then smoothly backed out the front door and up into the sky, revealing the house and neighborhood from a few hundred feet up.

Gaunt recommends using a small, light drone while scouting, to identify opportunities and potential issues for the location. Power lines, trees, and cell towers can all pose problems for drone use, and a scouting drone can help find and solve them before principal photography begins.

The GSCA's next meeting will be held virtually in Spring 2020 on dates to be announced.

Our coverage of Virtual 2020 will conclude in the next issue of LF Examiner.



Virtual Happy Hours concluded each conference day.



* New listing.

All films are 3D unless noted; underlined titles are 2D.

Updated information is printed in **bold**.

Unless noted, all films run about 40 minutes.

Antarctica

BBC Studios Natural History Unit; distributor: SK Films; director: Fredi Devas; producers: Jonny Keeling, Myles Connolly; script: Fredi Devas, Jonny Keeling; score: Jacob Shea; executive producer: Jonathan Williams. **Release: Dec. 1.**

Astronaut: Ocean to Orbit

Oceanic Research Group; distributor: MacGillivray Freeman Films; director: Jonathan Bird; producer: Art Cohen; DP: Jonathan Bird; script: Jonathan Bird, Art Cohen; score: Bruce Zimmerman; executive producers: Christine Bird, Greg Von Hausch. Cast: Astronauts Chris Cassidy, Jeanette Epps. Running time: 20 minutes. **Release: December.**

- 95% of principal photography has been completed.

The Search for Snow (formerly Snow)

Ouragan Films; distributor: nWave Pictures Distribution; directors: Jacqueline Farmer, Cyril Barbançon; producers: Jacqueline Farmer, Cyril Barbançon, Eric Dillens; DP: Cyril Barbançon; script: Jacqueline Farmer, Cyril Barbançon, Philippe Chappuis, Andy Byatt; executive producers: Jacqueline Farmer, Cyril Barbançon, Eric Dillens. **Release: December.**

- Principal photography is complete, post-production is under way.

Everest: The Director's Cut

MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; directors: Greg MacGillivray, David Breashears, Steve Judson; producers: Steve Judson, Alec Lomire, Greg MacGillivray; DP: David Breashears; script: Tim Cahill, Steve Judson; score: Daniel May, Steve Wood. Narrator: Liam Neeson. Cast: Araceli Segara, Jamling Tenzing Norgay, Ed Viesturs. **2D. Release: February 2021.**

- The original 15/65 footage is being scanned at 16K resolution.
- New material will be added.
- The film will be released in 8K resolution.

Oct '20	Jan '21	Jul '21
AstHun Angkor	Antarc	EverDC Ireland
	AOTO Snow	Cepha
		CoolCi
OceaC	Arctic DinoD	Sereng Tiger
		TrainT
		Atremis

Ireland

MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray; producer: Shaun MacGillivray; DPs: Brad Ohlund, Greg MacGillivray; script: Greg MacGillivray, Manchán Magan. **Release: February 2021.**

- Principal photography is complete, post-production is under way.

Ocean Currents (wt)

Wild Pacific Media, Definition Films; distributor: K2 Studios; director: Nick Robinson; producers: Nick Robinson, Electra Manikakis, Peta Ayers; DPs: Nick Robinson, Jonathan Shaw ACS, Caspar Mazzotti; script: Nick Robinson, Peta Ayers; score: Hylton Mowday; executive producers: David Gross, Electra Manikakis, Nick Robinson. Cast: Silvia Earl. **Release: Early 2021.**

- Film is nearly complete.

The Arctic: Our Last Great Wilderness (formerly America's Arctic)

Terra Mater Factual Studios; distributor: Cosmic Picture Distribution; directors: Myles Connolly, Florian Schulz; producers: Wolfgang Knöpfler, Walter Köhler; DP: Florian Schulz; script: Myles Connolly, Florian Schulz; score: Alex Heffes. **Release: Spring 2021.**

- Principal photography is complete, post-production is under way.

Dino Dana: The Movie

Sinking Ship Entertainment; distributor: Sinking Ship Entertainment; director: J.J. Johnson; producers: Eric Beldowski, Blair Powers, Christin Simms, Matthew J.R. Bishop; DP: George Lajtai CSC; script: J.J. Johnson, Christin Simms; score: Michael Paul Ella; executive producers: J.J. Johnson, Blair Powers, Christin Simms, Matthew J.R. Bishop. Cast: Michaela Laci, Saara Chaudry, Nicola Correia-Damude, Amish Patel. **2D. 30 minutes. Release: Spring 2021.**

- A shorter version is being prepared.

Mysteries of the Serengeti (wt, formerly Serengeti)

K2 Studios; distributor: K2 Studios; director: Michael Dalton-Smith; producers: Michael Dalton-Smith, David Gross; script: Michael Dalton-Smith, Karen Gordon; executive producers: David Gross, Mark Kresser, Michael Dalton-Smith. **Release: Spring 2021.**

- Filmed in September.
- Filming aerials in November.

Tiger, Tiger

White Mountain Films, Kennedy/Marshall Company, Imax Corporation; distributor: Imax Corporation; director: George Butler; producers: George Butler, Keiro Birla, Caroline Alexander; DPs: Reed Smoot, Tom Hurwitz; script: Caroline Alexander; score: Mark Kilian; executive producers: Julian Robertson, Frank Marshall. Cast: Dr. Alan Rabnowitz. **2D. Release: Spring 2021.**

- Principal photography is complete, post-production is under way.

Train Time

Stephen Low Company; distributor: Stephen Low Company; director, script: Stephen Low; producers: Pietro Serapiglia, Stephen Low; executive producer: Paul Globus. **2D. Release: Spring 2021.**

- Film is complete.

Cephalopods: Aliens of the Deep *

Journey through the magical world of these fascinating aquatic species.

Saint Thomas Productions; distributor: nWave Pictures Distribution; director, producer: Bertrand Loyer; DPs: Kevin Peyrusse, Marta Sostres, Jerome Maison, Bertrand Loyer; score: Samuel Safa. Narrator: Jacqueline Farmer. **Release: April 2021.**

- Filmed in Australia and the Philippines.
- Honorable Mention at 2020 Jackson Hole Media Awards.

Artemis: Beginning of a New Era (wt)

Afterglow Studios; distributor tba; director: Luke Ployhar; producers: Luke Ployhar, Ashley Jahnke; script: Scott Pearson. **Release: mid-2021 to early 2022.**

- Production is on hold because of pandemic.
- May restart by the end of 2020.

Wings Over Water

Dorsey Pictures, Archipelago Films; distributor: SK Films; directors, producers, script: Andrew Young, Susan Todd; DP: Andrew Young; executive producer: Chris Dorsey, Charlie S. Potter. **Release: Sept. 2021**

- Photography is 95% complete.
- October: Aerial photography at several US locations, using a custom-build light sports aircraft to fly with birds.
- November: VFX, graphics, and CGI work starts.

Refuge: America's Wildest Places

Tandem Stills + Motion; distributor: tba; director, producer: Ian Shive. **Release: Fall 2021.**

- Principal photography is complete, post-production is under way.

Einstein's Incredible Universe (wt)

Cosmic Picture; distributor: tba; director: Daniel Ferguson; producers: Taran Davies, George Duffield, Daniel Ferguson; script: Daniel Ferguson, Mose Richards; DP: Reed Smoot. **Release: 2021.**

Journey to the Great Mayan Reef

Milbrand Cinema; distributor: tba; director, producer, DP: Lance Milbrand; editor: Dave Choice; score: Icarus Music. Cast: Kathleen Dudzinski, Eldon Bolton. **Release: 2021.**

- Principal photography is complete.

Mars 1001

Mirage 3D; distributor: K2 Studios; director, writer: Robin Sip; DP: Christiaan Wouda; score: Mark Slater. Cast: Miles O'Brien. **Release: 2021.**

New England and the Sea of Stories (wt)

Cosmic Picture; distributor: Museum of Science, Boston; director: Daniel Ferguson; producer:

Jan '22

July '22

WOW
Refuge

EIU
JTTGMR
Mars

NewEng
SharkHe
Yellows

SOTS

CooIC
FireFi

Taran Davies; script: Daniel Ferguson; DP: Reed Smoot. 2D. Release: 2021.

- Filming, originally planned to start in April, has been put on hold.

Shark Heroes (wt)

Definition Films; distributor: K2 Studios; director, writer: Amelia McCarten; producer: David Gross; DP: Jonathan Shaw ACS; executive producer: Mark Kresser. Release: 2021.

- Fall: Filmed in Australia.

Yellowstone: Life in Extremes

Grizzly Creek Films; distributor: tba; director: Thomas Winston. Release: tba.

- Filmed in Yellowstone in 2019 and 2020.
- Captured unprecedented aerials of the park with no humans during COVID shutdown.

Secrets of the Sea

Howard Hall Productions, Oceanic Research Group; distributor: tba; directors: Howard Hall,

Jonathan Bird; producers: Michele Hall, Christine Bird; DPs: Howard Hall, Jonathan Bird; script: Howard Hall; score: Bruce Zimmerman, Alan Williams; executive producers: Michele Hall, Christine Bird. Release: Spring 2022.

- Principal photography is complete.
- Rough cut has been done.
- Release will be delayed to 2022.

Cool Cities (wt)

K2 Studios; distributor: K2 Studios; director: Nick Robinson; producer: David Gross; executive producers: Robert Kresser, Mark Kresser, Mark Krenzien, David Gross. Cast: Tim Jarvis. Release: 2022.

Fire Fighters

Sean Casey Productions; distributor: tba; director, DP: Sean Casey. 2D. Release: 2022.

- Will be filming this fire season with the added pressure of the coronavirus affecting the fire service community.

DMR FILMS:

Title	Dist	Release
Wonder Woman 1984	WB	12/25/20
No Time to Die	MGM	4/2/21
A Quiet Place Part II	PAR	4/23/21
F9	UP	5/28/21
Jurassic World: Dominion	UP	6/11/21
Venom: Let There Be...	Sony	6/25/21
Top Gun: Maverick	PAR	7/2/20
Shang-Chi	WDP	7/9/21
The Batman	WB	10/1/21
Mission: Impossible 7	PAR	11/19/21
Spider-Man (untitled)	WDP	12/17/21
Thor: Love and Thunder	WDP	2/11/22
Doctor Strange	WDP	3/25/22
Fast & Furious 10	UP	4/2/22
Indiana Jones (untitled)	WDP	7/29/22
Avatar 2	FOX	12/16/22

DP Kevin Peyrusse filming a flamboyant cuttlefish for Saint Thomas Productions' Cephalopods.

The Story of Kansas' Cosmosphere



L to r: Hutchinson librarians Ernestine Gilliland and Denny Stephens and Cosmosphere founder Patty Carey look at the Hutchinson Planetarium's Spitz A-2 star projector, circa 1966.

(from **COSMOSPHERE** on page 1)

now with **MacGillivray Freeman Films**, who got her start at the Cosmosphere; **Graeme Ferguson**, co-founder of **Imax Corporation**; and current Cosmosphere president and CEO **Jim Remar**.

Diane Carlson: Mary Jane, tell me how an IMAX theater came to be in Hutchinson in 1980.

Mary Jane Dodge: In 1975, I graduated from college in Minnesota and, with my astronomy degree in hand, applied for the position of assistant director of the Hutchinson Planetarium in Kansas. I was hired by Patty Carey, the "Executive Mother" of the organization. I was one of two employees. The other, the director, was fired about eight months after I started, and legendary director **Max Ary** was hired. It was great working with Max and we were the only paid staff for a long time. Max was the driving force who would transform the Cosmosphere into the world-class space center that it became. But back to the theater story.

In 1977 I attended a planetarium con-

ference in Vancouver, BC. I was walking through the trade show and saw a really nice gentleman handing out brochures about IMAX, a new film projection system that could be used for planetariums. This encounter changed my life. It was Graeme Ferguson, one of the founders of Imax Corporation! I returned to Hutchinson and proclaimed that "we have to get one of these."

In 1978 we made a visit to the IMAX theater at the **Smithsonian's National Air and Space Museum** in Washington, DC. Max and I saw MacGillivray Freeman Films' **To Fly!** and that was it! Our minds were made up: we had to bring an IMAX theater to Hutchinson. We had already designed a new planetarium, but we just had to find a way to add this new IMAX system. Working with Graeme Ferguson and Imax's chief engineer, **Bill Shaw**, we were able to do it. We didn't have room for an elevator to lift the projector into the theater. But the ingenious Bill Shaw invented a scissor lift to get the projector into place. That nice gentleman, Graeme Ferguson, made several trips to

Hutchinson, and we became great friends over the years.

Graeme Ferguson: When it was first suggested that we put an OMNIMAX projector into Hutchinson, we had a few trepidations. OMNIMAX was already successful in San Diego and St. Paul, but those were much larger cities. **Rick Mlady**, who had recently joined our company, put our minds at ease. When he had worked for **Spitz**, he had sold two planetarium systems to Hutchinson, and he assured us that Hutchinson's museum-goers were drawn from the whole state, not just the immediate community, so plenty of people would come.

A second concern, raised by many, was that an OMNIMAX projector might be overkill for a 44-foot (13-meter) dome. Why not use a smaller format, such as 8-perf 70mm? Bill Shaw, the inventor of the OMNIMAX projector, pointed out that the key issue was not dome size, but the audience's angle of view. For a person sitting near the center of the theater, the picture fills about 180 degrees, side to side, and the resolution appears the same, no matter what the dome size. If a 15-perf format is necessary for a 76-foot (23-meter) dome, it is equally necessary for a 44-foot (13-meter) dome.

A third concern was the cost. Science centers in big cities have bigger budgets, and could more easily afford the cost of



Max Ary

the equipment and the continuing expenditure of film prints. Solving that problem was in the hands of my partner **Robert Kerr**, who negotiated all our contracts.

Rick Mlady had a very high opinion of Patty Carey's leadership, and, sure enough, when Rick introduced Robert to Patty, Robert came to a similar conclusion. Robert prized people with good judgment, and Patty's attributes so impressed him that he and she had little difficulty in hammering out a satisfactory deal. When the rest of us at Imax got to know Patty and Max Ary and their team, we too were impressed.

The theater has been a tremendous success, and we are very proud of our contribution. I am also personally pleased at Hutchinson's enthusiastic and unwavering support for our space films.

As an aside, Hutchinson sits atop an extensive salt mine, in which are stored the negatives of many feature films. At that time the mine was owned by the Carey family, and on one occasion Bill Shaw and I were given a tour. I was particularly flashed to see the cans that contain the precious negative of *The Wizard of Oz*.

Mary Jane Dodge: I'll never forget the groundbreaking for the new building. It was cosmic and will give you a good idea of what it was like to work with Max Ary. A shovel wouldn't do. Instead Max arranged to have a signal sent from the Voyager spacecraft that was on its way to Jupiter at the time. The date was Feb. 14, 1979. The signal travelled over 400 million miles at the speed of light and took almost 36 minutes to reach earth. The signal was picked up by a huge radio telescope at the Jet Propulsion Laboratory in Pasadena, CA, and sent by phone line to the Hutchinson planetarium lobby. The signal switched on a laser that triggered a device to ignite explosives beneath the groundbreaking site, setting off a huge blast! The Cosmosphere literally started with a bang!

The theater opened on Oct. 26, 1980. It was 44 feet (13 meters) in diameter, had 107 seats, and was the seventh IMAX Dome and 17th IMAX theater in the world. The opening film was *To Fly!*, and



Mary Jane Dodge shows students an Apollo glove in a 1979 workshop at the Cosmosphere.

little did I dream that 40 years later I would be working at MacGillivray Freeman! The theater was phenomenally successful. The first-year attendance for the Cosmosphere was 140,000! This is in a town with a population of 40,000. But Kansas is an agricultural state where people don't think anything of driving a long way to see something special. And everyone wanted to see the Cosmosphere. Schools drove from Dodge City, 200 miles away, just for a day's visit. It was a hit across the whole state. We tapped into the state's tourism department and came up with the slogan: Space Out in Hutch! (It was the '80s, after all!)

Two years later, in July 1982, we were thrilled to host the fall conference of the Space Theater Consortium. (At the time, the consortium was entirely volunteer-run, with no paid staff.) Sixty people attended, and Graeme gave the keynote address. We previewed *Hail Columbia!* and another film a few old-timers might remember: *My Strange Uncle*, starring Cloris Leachman.

The experience I gained in little Hutchinson, KS, is still with me, and I feel so fortunate to have been there at the beginning. The Cosmosphere continued to

grow after I left, and although the IMAX projector was replaced with a digital system in 2012, after 32 years, the theater's tiny (by current GS standards) but mighty legacy continues.

Jim Remar: Jim Remar is the current CEO of the Cosmosphere. Raised in Hutchinson, he joined the staff at the Cosmosphere in 2000, left in 2008, and returned in 2012 as the chief operating officer. He saw his first IMAX film, *To Fly!*, as a child at the Cosmosphere and it made a huge impression on him. "You felt like you were a part of it!" He is also a fan of *Michael Jordan to the Max*, *NASCAR*, and *Everest*.

Diane Carlson: Tell me a bit about the value of the theater to the Cosmosphere.

Jim Remar: It was the novelty of the dome, coupled with technology of the image, the quality of the sound system, and its educational value, that captured the community. It continues to resonate because of the educational value. Prior to my return, the decision had been made to replace the film system with a Barco digital system so that a wider assortment of films

(see *COSMOSPHERE* on page 14)

(from **COSMOSPHERE** on page 13)

would be available to us. A GS theater is a great asset for fresh new content. We are able to take our audiences on incredible journeys in a special format. And it is an important revenue stream for us. Permanent exhibits can only be changed every three to four years and are very costly. But with our theater we can offer a varied range of content that appeals to different age and interest groups. And there is the value of the theater to our members: even if they don't use all of their benefits, it is an added reason to join or renew.

That is why it was critical to reopen the theater safely after our COVID-19 closure. We reopened on May 22 with a limit of 30 tickets per show: about one-third of our capacity. We were delighted that the tickets were selling out and have added screenings. Now [July 2020] we are able to sell almost 50% of our capacity and our community is responding positively.

Fortunately, we were also able to offer our summer space camps in July for local participants. These are residential camps for students in grades 7-11. Before COVID, we brought students to Hutchinson from around the world, from as far away as China and South Africa. I think that bringing students to the heartland of America is a valuable added di-

mension to the program.

Diane Carlson: While the Cosmophere is well known for the theater, tell me about some of the other facets of the facility.

Jim Remar: Max Ary was the visionary executive director of the Cosmophere from 1976 to 2002. He had a passion for astronomy and space exploration. It was this passion, coupled with his knowledge and tenacity, that resulted in the Cosmophere housing the largest combined collection of U.S. and Soviet space-related artifacts in the world. What always surprises people is that we have the original Apollo 13 command module in our collection.

In 1988, SpaceWorks, a division of the Cosmophere, was founded to specialize in the restoration of space artifacts and the creation of replicas. Its most famous project is probably the Apollo spacecraft sets made for **Ron Howard's** 1995 film, **Apollo 13**, starring **Tom Hanks**. But the work continues, globally.

I was recently in Taiwan for the installation of a UFO exhibit, and in 2019 we did the restoration work for the Mission Control Room at NASA in Houston. This year we completed a display based on Skylab for another client.

Diane Carlson: Any final thoughts?

Jim Remar: I am excited to engage with



Jim Remar

the GS community through the GSCA, and as travel is safely resumed across the U.S., I hope that members of the community will include a visit to Hutchinson. A heartland experience should be on everyone's U.S. travel list, and the Cosmophere is a jewel in the heart of the heartland.

Diane Carlson is principal of Giant Screen Cinema Consulting. Before founding the firm in 2017, she managed the IMAX theaters at the Pacific Science Center in Seattle, WA, for over 35 years. She can be reached at dianecarlson@giantSCREENCINEMA.com.



Premiering in October

Angkor: Lost Empire of Cambodia

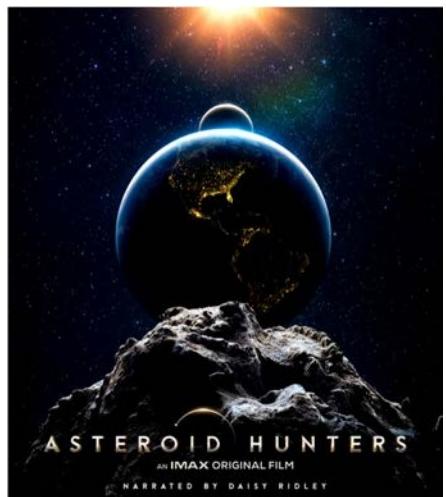
Produced by **Definition Films** and **Heilio Projects Asia**, distributed by **K2 Studios**. Directed by **Murray Pope**, produced by **Christopher Zaryc, David Gross, and Murray Pope**, photographed by **Earle Dresner**, written by **Murray Pope and Paul Phelan**. Executive producers: **Ed Capelle, Mark Kresser, Nick Robinson, Kulikar Sotho, and John Wiley**. Release: Oct. 1.

"At the height of its power between the 9th and 15th centuries, Angkor was a resplendent city, considered the most extensive urban complex of the pre-industrial world. But by the late 16th century, the empire was in its death throes. The people of Angkor left not a single word explaining their kingdom's collapse. Come along this giant-screen adventure to unveil the mysteries behind this lost jewel of Cambodia!"

Asteroid Hunters

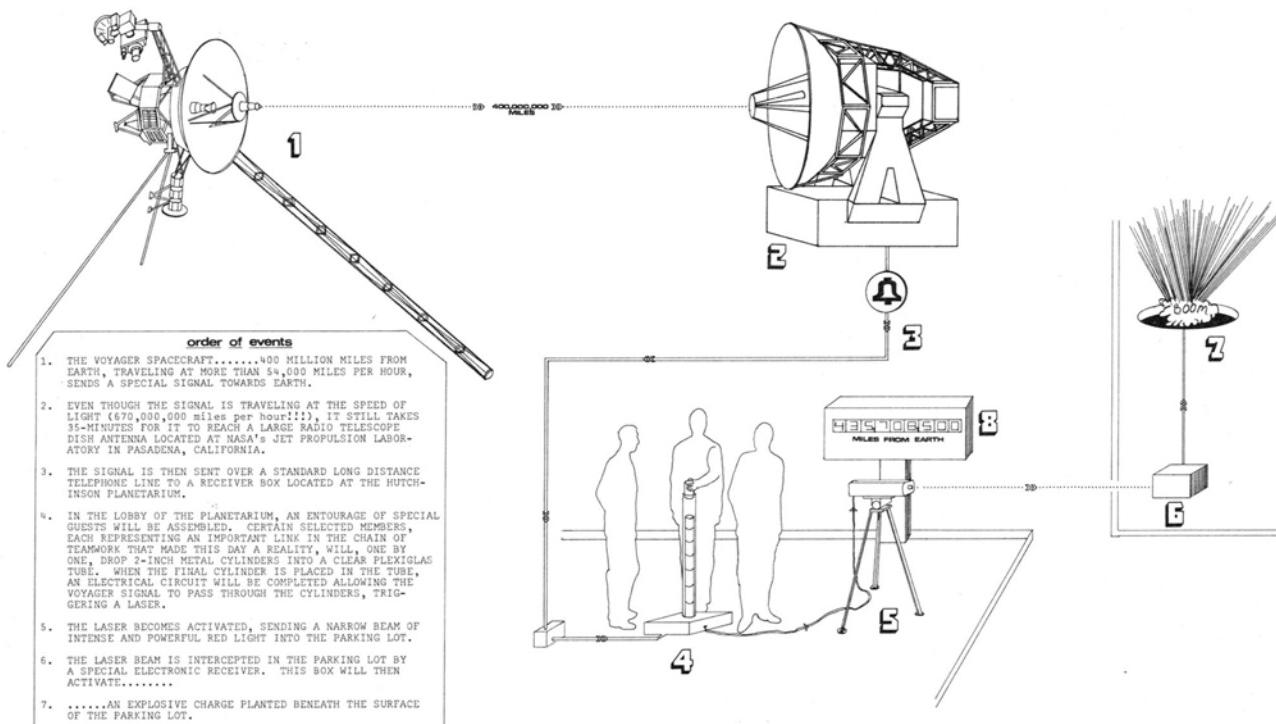
Produced by **Imax Corporation** and **Huahuang Pictures**, distributed by **Imax Corporation**. Directed by **W.D. Hogan**, produced by **Jini Durr and Phil Groves**, photographed by **Sean MacLeod Phillips**, written by **Phil Groves**. Executive producers: **Anna Chi and Phil Groves**. Cast: **Mariina Brozovic, Mark B. Boslough, Kelly Fast, Nahum Melamed**. Release: Oct. 8.

"Venture into deep space for a fascinating look at asteroids, their cosmic origins, and the potential threat they pose to our world. *Asteroid Hunters* introduces asteroid scientists — the best line of defense between Earth and an asteroid's destructive path — and reveals the cutting-edge tools and techniques they use to detect and track asteroids, and the technology that may one day protect our planet. The effects of an asteroid impact could be catastrophic, and while the current probability of an event in our lifetime is low, the potential consequences make the study of



asteroids an incredibly important area of scientific research. Witness the latest in planetary defense and how science, ingenuity, and determination combine to explore the world's most preventable natural disaster."

THE DREAM BEGINS.....



A contemporary schematic illustration of how the Voyager spacecraft initiated the groundbreaking for the Cosmosphere in February 1979.

Bookings: Sept.-Oct. 2020 by Film

247 bookings of 88 films in 85 theaters

Film	Theater	Open	Close	Film	Theater	Open	Close	Film	Theater	Open	Close	
A11FSE	Baton Rouge LASM	6/19/20		ExpChesa	Galveston	5/23/20		Ocean3D	Rochester MSC	6/27/20		
	Cincinnati MC	7/17/20		ExtrWeat	Calgary TS	7/1/20		OOBP	Kaohsiung NSTM	10/31/20	11/15/20	
	Hutchinson	5/22/20		FightPil	Dayton	7/26/20			Al Khobar	8/11/20		
	Orlando SC	6/15/20		FOTB	McMinnville	7/15/20			Beijing 3D CSTM	9/22/20		
Pensacola NAM	9/29/20			Hastings	10/1/20				Hague	7/1/20		
Peoria RM	10/20	12/20		Saint Augustine	10/6/20				Mexicali	10/20	12/20	
Saint Louis SC	6/18/20			G3DNW	Katowice CC	10/1/20	9/30/21		Shanghai Dome STM	7/21/20		
Shreveport	10/20	12/20		Krakow CC	10/1/20	9/30/21			Stockholm	10/1/20		
Speyer Dome	6/1/20			Lodz CC	10/1/20	9/30/21			Branson	7/1/20		
Vancouver TWS	8/1/20		9/20	Moscow Kin	10/31/20				Calgary TS	7/1/20		
Corpus Christi Lex	7/23/20			Poznan CC	10/1/20	9/30/21			Indianapolis Imx	9/20	12/20	
Pensacola NAM	9/29/20			Warsaw CC	10/1/20	9/30/21			Moscow Kin	10/3/20		
AfricAdv	Katowice CC	10/1/20	9/30/21	Wroclaw CC	10/1/20	9/30/21		PlanPowe	Sinsheim	6/1/20	10/31/20	
	Krakow CC	10/1/20	9/30/21	Chattanooga TA	7/17/20				Valencia Spn	10/20	12/20	
	Lodz CC	10/1/20	9/30/21	Houston MNS	9/4/20			Rescue	McMinville	7/15/20		
	Poznan CC	10/1/20	9/30/21	Memphis Pink	10/20	12/20		RME	Branson	10/20	12/20	
	Warsaw CC	10/1/20	9/30/21	Beijing CFM	10/1/20				Victoria RBCM	10/20		
	Wroclaw CC	10/1/20	9/30/21	Calgary TS	7/1/20	9/20		Sealion	Boston NEA	8/1/20		
AGWN	Edmonton TWS	7/8/20		Chicago MSI	8/1/20				Victoria RBCM	7/3/20	9/20	
Taipei AM	7/16/20			Cleveland	7/1/20			Seamont	Lehi	7/23/20		
Denver MNS	7/13/20	9/20		Hague	7/1/20			SeaTurtl	Lucerne STM	9/28/20		
Valencia Spn	10/20	12/20		Lubbock SS	7/23/20			SFLIS	Beijing 3D CSTM	9/22/20		
AMJ	Baton Rouge LASM	6/19/20		Montreal SC	7/16/20				Donguan STM	7/20/20		
Peoria RM	10/20	12/20		Regina	7/23/20				Hartberg	6/11/20		
Shanghai 3D STM	7/21/20			Saint Augustine	6/26/20			SOE	Lucerne STM	10/1/20	9/30/21	
Shanghai Dome STM	7/21/20			Saint Louis SC	6/18/20			SOTU	Taipei AM	7/6/20	12/31/20	
AMMM	Hangzhou LCSTM	7/22/20		Victoria RBCM	7/3/20				Chicago MSI	8/1/20		
Orlando SC	6/15/20	3/31/21		Wichita EP	7/1/20				Salt Lake City Clark	6/15/20		
Chicago MSI	10/20	12/20		Grand Canyon DCI	9/20	12/20			Valencia Spn	10/20	12/20	
Galveston	5/23/20			GWS	8/1/20			SpaceNex	Beijing Dome CSTM	9/22/20		
Hutchinson	5/22/20			HCBTD	7/21/20			SpaceSta	Moscow Kin	10/11/20		
Lucerne STM	9/28/20			HiddPac	7/13/20	11/5/20		SpacJunk	Dayton	7/26/20		
Saint Paul SMM	8/21/20			Kaohsiung NSTM	1/1/20	12/31/20			Shanghai 3D STM	7/21/20		
Angkor	Taichung NMNS	10/1/20	9/30/21	Mobile	6/2/20				Shanghai Dome STM	7/21/20		
AntarcSK	Hague	10/8/20		Peoria RM	7/1/20				Calgary TS	7/11/20		
AsterHunt	Fort Lauderdale	10/8/20	10/15/20	Taichung NMNS	1/1/20	12/31/20			Chattanooga TA	7/17/20		
	Indianapolis Imx	10/20	12/20	Edmonton TWS	10/20	12/20			Chicago MSI	8/1/20		
	Kagoshima MSC	10/20	12/20	Moscow Kin	10/18/20				Cincinnati MC	7/17/20		
	KSC 1	10/20	12/20	Hubble3D	7/8/20				Denver MNS	8/7/20	11/5/20	
	Regina	10/20	12/20	Edmonton TWS	7/8/20	9/20			Houston MNS	9/4/20		
	Sacramento Imx	10/20	12/20	HumpbWha	7/22/20				London BI Ode	10/20	12/20	
	Saint Augustine	10/20	12/20	Pittsburgh CSC	6/29/20				Memphis Pink	7/21/20	9/20	
	Saint Louis SC	10/23/20		IAW	9/9/20	10/31/20			Montreal SC	7/16/20		
	Salt Lake City Clark	10/20	12/20	Austin TSHM	9/20				Moscow Kin	10/28/20		
	Salt Lake City Clark	10/1/20	10/1/21	Denver MNS	7/13/20	11/5/20			Omaha Zoo	6/29/20		
	Toulouse CDE	10/20	12/20	Houston MNS	9/4/20				Regina	7/23/20		
BackWild	Beijing Dome CSTM	9/22/20		Lucerne STM	9/28/20				Saint Augustine	6/26/20	9/20	
	Boston NEA	6/1/20		Peoria RM	7/1/20				Shreveport	6/24/20		
	Saint Louis SC	6/1/20		Regina	7/23/20				Stockholm	10/1/20		
	Taichung NMNS	7/1/19		Sioux Falls	6/22/20	9/20			Vancouver TWS	6/1/20	9/20	
BeauPlan	Indianapolis Imx	9/20	12/20	Edmonton TWS	10/20	12/20			MexicoCity	10/20	12/20	
	Moscow Kin	10/4/20		IncrPred	6/2/20				Peoria RM	10/20	12/20	
BeaversDC	Victoria RBCM	10/20	12/20	IOLM	10/7/20				Lehi	7/23/20		
BFJ	Lucerne STM	9/28/20		ISR	10/20				TOTIA	Victoria RBCM	10/20	12/20
BFTB	Cleveland	7/1/20		Jerusale	6/1/20				Trolley	Austin TSHM	9/9/20	10/31/20
	Hastings	7/14/20		JTM	6/1/20				TurtOdys	Boston NEA	10/20	12/20
	Lubbock SS	7/23/20		JTS	6/1/20					Chattanooga TA	7/17/20	
	Salt Lake City Clark	10/1/20	10/9/21	MOTUW	6/2/20					Hague	7/1/20	
BTBW	Toronto OP	9/28/20	2/14/21	Mummies	6/1/20					Louisville KSC	7/25/20	
	Edmonton TWS	7/8/20	9/20	Niagara	7/23/20					Omaha Zoo	6/29/20	
	Moscow Kin	10/25/20		NPA	6/1/20					Stockholm	10/1/20	
ConqOTS	Oulu	6/22/20	11/30/20	Sioux Falls	6/22/20	9/20				Victoria RBCM	7/3/20	9/20
Cuba	Hague	7/1/20		Speyer Dome	6/1/20					Victoria RBCM	10/20	12/20
D-Day	Hague	10/8/20		Saint Augustine	6/26/20	12/31/20						
DinoAliv	Dayton	7/26/20		L&C	10/10/20							
	Hastings	10/1/20		LastReef	10/10/20							
	Houston MNS	9/4/20		LITAOA	10/10/20							
	Kansas City Sci	7/3/20	9/20	LOF	7/15/20							
DOA	Mobile	6/2/20	9/20	MAOAB	7/23/20							
	Kaohsiung NSTM	10/31/20	11/15/20	MAOB	10/1/20							
	Baton Rouge LASM	6/19/20		MOTUW	6/2/20							
	Lubbock SS	7/23/20		Mummies	7/1/20							
	Memphis Pink	7/21/20		Niagara	7/23/20							
	Phoenix ASC	10/20	12/20	NPA	6/1/20							
Dolphins	Salt Lake City Clark	6/15/20	2/13/21	Sioux Falls	6/22/20	9/20						
DreamBig	Speyer Dome	6/1/20		SupDogs	6/1/20							
	Baton Rouge LASM	6/19/20	9/20	SupDogs	7/20/20							
	Moscow Kin	10/21/20		SupDogs	7/20/20							
DS3D	Valencia Spn	10/20	12/20	SupDogs	7/20/20							
	Moscow Kin	10/1/20		SupDogs	7/20/20							
Everest	Sinsheim	6/1/20		SupDogs	7/20/20							
	Kapurthala	7/21/20		SupDogs	6/29/20							

Sept.-Oct. 2020 by Theater

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close
Al Khobar	JTM	8/11/20		SupDogs	7/17/20			Fort Lauderdale	LITAOA	10/20	12/20
	JTS	8/11/20		TurtOdys	7/17/20			Galveston	Cuba	10/22/20	9/20
Austin TSHM	OOBP	8/11/20		AncCaves	10/20	12/20		Hastings	WildAfri	7/8/20	9/20
	OOBP	9/9/20	10/31/20	GFRF	8/1/20			Hartberg	WWDP3D	7/8/20	9/20
Baton Rouge LASM	9/9/20	10/31/20		SOTU	8/1/20			Hartberg	AsterHunt	10/8/20	10/15/20
A11FSE	6/19/20			SupDogs	8/1/20			Hartberg	AncCaves	5/23/20	
AMJ	6/19/20			SupDogs	7/17/20			Hartberg	ExpChesa	5/23/20	
	DreamBig	6/19/20	9/20	SupDogs	7/17/20			Hartberg	WildAfri	6/2/20	12/20
	ISR	10/20	12/20	SupDogs	7/17/20			Hartberg	WWDP3D	7/1/20	12/20
Beijing 3D CSTM	OOPB	9/22/20		SupDogs	7/17/20			Hartberg	WildAfri	7/1/20	12/20
Beijing CFM	GBRF	10/1/20		SupDogs	7/26/20			Hartberg	WildAmr	7/8/20	9/20
	JTTSP	10/1/20		SupDogs	7/26/20			Hartberg	WWDP3D	7/8/20	9/20
Beijing Dome CSTM	9/22/20			SupDogs	7/26/20			Hartberg	Yell	6/22/20	
Boston NEA	SpaceNex	9/22/20		SupDogs	7/26/20			Hartberg			
	BackWild	8/1/20		SupDogs	7/26/20			Hartberg			
	GWS	8/1/20		SupDogs	7/26/20			Hartberg			
	Sealion	8/1/20		SupDogs	7/26/20			Hartberg			
	TurtOdys	10/20	12/20	SupDogs	7/26/20			Hartberg			
Branson	NPA	10/20	12/20	SupDogs	7/26/20			Hartberg			
	Ozarks	7/1/20		SupDogs	7/26/20			Hartberg			
	RME	10/20	12/20	SupDogs	7/26/20			Hartberg			
Calgary TS	ExtrWeat	7/11/20		SupDogs	7/26/20			Hartberg			
	GBRF	7/11/20	9/20	SupDogs	7/26/20			Hartberg			
	Pandas	7/1/20		SupDogs	7/26/20			Hartberg			
	SupDogs	7/1/20		SupDogs	7/26/20			Hartberg			
Charleston CCAS	WildAfri	7/23/20		SupDogs	7/26/20			Hartberg			
Chattanooga TA	GBR3D	7/17/20		SupDogs	7/26/20			Hartberg			

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close
Indianapolis Imx	AncCaves	5/22/20		LastReef	10/10/20			Shanghai Dome STM	UnderSea	7/21/20	
	AsterHunt	10/20	12/20	NPA	10/24/20				AMJ	7/21/20	
	BeauPlan	9/20	12/20	Pandas	10/3/20				OOPB	7/21/20	
	Pandas	9/20	12/20	SpaceSta	10/11/20				SpacJunk	7/21/20	
Kagoshima MSC	AsterHunt	10/20	12/20	SupDogs	10/28/20				UnderSea	7/21/20	
Kansas City Sci	DinoAliv	7/3/20	9/20	Volcanoes	9/28/20			Shreveport	A11FSE	10/20	12/20
	NPA	7/3/20	9/20	New York AMNH	Niagara Can DCI	9/23/20			BTBW	6/24/20	9/20
Kaohsing NSTM	DOA	10/31/20	11/15/20	Omaha Zoo	SupDogs	6/29/20			SupDogs	6/24/20	
	HiddPac	1/1/20	12/31/20	Orlando SC	TurtOdyns	6/29/20		Sinsheim	DS3D	6/1/20	
Kapurthala	Ocean3D	10/31/20	11/15/20		A11FSE	6/15/20	3/31/21		Hubble3D	6/1/20	
Katowice CC	Everest	7/21/20			AMMM	6/15/20			PlanPowe	6/1/20	10/31/20
	AfricAdv	10/1/20	9/30/21		Volcanoes	6/15/20			WildAmer	6/1/20	
	G3DNW	10/1/20	9/30/21	Oulu	ConqOTS	6/22/20	11/30/20		IAW	6/22/20	9/20
Keeling NMMST	UWT3D	7/1/20		Pensacola NAM	A11FSE	9/29/20			MOTUW	6/22/20	9/20
Krakow CC	AfricAdv	10/1/20	9/30/21		ACGOTS	9/29/20			11FSE	6/1/20	
	G3DNW	10/1/20	9/30/21	Peoria RM	MOTUW	9/29/20			Dolphins	6/1/20	
KSC 1	AsterHunt	10/20	12/20		A11FSE	10/20	12/20		Jerusale	6/1/20	
	JTS	7/6/20			AMJ	10/20	12/20		JTTSP	6/1/20	
Lehi	MA	7/23/20			HiddPac	7/1/20			MOF	6/1/20	
	SeaMonst	7/23/20			TinyGian	10/20	12/20		Stockholm	OBPB	10/1/20
Lodz CC	TOTIA	7/23/20			WWDP3D	10/20	12/20		SupDogs	10/1/20	
	AfricAdv	10/1/20	9/30/21	Phoenix ASC	DOA	10/20	12/20		TurtOdyns	10/1/20	
London BFI Ode	G3DNW	10/1/20	9/30/21	Pittsburgh CSC	HumbpWha	6/29/20		Taichung NMNS	Angkor	10/1/20	9/30/21
Louisville KSC	SupDogs	10/20	12/20		NPA	6/29/20			BackWild	7/1/19	
Lubbock SS	TurtOdyns	7/25/20		Poznan CC	AfricAdv	10/1/20	9/30/21		HiddPac	1/1/20	12/31/20
	BFTB	7/23/20			G3DNW	10/1/20	9/30/21		AGWN	7/16/20	9/4/21
	DOA	7/23/20		Regina	Regina	10/20	12/20		SOE	7/6/20	12/31/20
Lucerne STM	GRBF	7/23/20		Rochester MSC	AsterHunt	10/20	12/20		Volcanoes	1/1/20	12/31/20
	AncCaves	9/28/20		Sacramento Imx	AsterHunt	10/20	12/20		WWDP3D	10/20	12/20
	BFJ	9/28/20		Saint Augustine	FOTB	10/6/20			A11FSE	8/1/20	9/20
Memphis Pink	IAW	9/28/20			GRBF	6/26/20	12/31/20		IAW	8/1/20	9/20
	SeaTurtl	9/28/20			L&C	6/26/20			SupDogs	8/1/20	9/20
	SOB3D	10/1/20	9/30/21		MJTTM	10/20	12/20		BeaversDC	10/20	12/20
McMinnville	FightPil	7/15/20			SupDogs	6/26/20	9/20		GRBF	7/3/20	9/20
	LOF	7/15/20		Saint Louis SC	UnderSea	10/6/20			RME	10/20	12/20
	Rescue	7/15/20			Volcanoes	6/26/20	9/20		Sealion	7/3/20	9/20
	DOA	7/21/20			Volcanoes	6/15/20	2/13/21		Trolley	10/20	12/20
	GBR3D	10/20	12/20		GRBF	6/18/20			TurtOdyns	10/20	12/20
	SupDogs	7/21/20	9/20		SubSD	8/21/20			TurtOdyns	10/20	12/20
Mexicali	OOBP	10/20	12/20		SOE	10/20			WellsAdv	10/1/20	9/30/21
	TinyGian	10/20	12/20		SpaceNex	Space Next 3D			G3DNW	10/1/20	9/30/21
	WWDP3D	10/20	12/20		Space Sta	Space Station			GRBF	7/1/20	
Mobile	DinoAliv	6/2/20	9/20		SpacJunk	Space Junk			RME	10/20	12/20
	HiddPac	6/2/20			SupDogs	Superpower Dogs			Sealion	7/3/20	9/20
Montreal SC	IncrPred	6/2/20			TinyGian	Tiny Giants 3D			Trolley	10/20	12/20
	GBRF	7/16/20	9/20	Saint Paul SMM	TOTIA	Titans of the Ice Age			TurtOdyns	10/20	9/20
Moscow Kin	AM	10/1/20		Salt Lake City Clark	AsterHunt	10/20	12/20		WellsAdv	10/1/20	9/30/21
	BeauPlan	10/4/20			AsterHunt	10/20	10/1/21		G3DNW	10/1/20	9/30/21
	BFTB	10/25/20			ASD/Hunt	10/0/20	10/1/21		GRBF	7/1/20	
	DreamBig	10/21/20			BFTB	10/15/20	10/9/21		RME	10/1/20	9/30/21
	DS3D	10/17/20			DOA	6/15/20	2/13/21		Walking With Dinosaurs: Prehistoric Planet 3D	2014	3D
	G3DNW	10/31/20			SOTU	6/15/20			Yellowstone	1994	GSF
	Hubble3D	10/18/20			Volcanoes	6/15/20					
	IOLM	10/7/20			HCBTD	7/21/20					
					AMJ	7/21/20					
					SpacJunk	7/21/20					

Key to Film Abbreviations

Film	Title	Year	Dist	Film	Title	Year	Dist
A11FSE	Apollo 11: First Steps Edition	2019	MFF	Ocean3D	Ocean 3D	dev	3D
ACGOTS	Aircraft Carrier: Guardian of the Seas	2016	3D	OOPB	Oceans: Our Blue Planet	2018	3D
AfricAdv	African Adventure 3D	2007	3D	Ozarks	Ozarks: Legacy and Legend	1993	IMAX
AGWN	Australia's Great Wild North	2018	K2	Pandas	Pandas	2018	3D
AmazAdve	Amazon Adventure	2017	3D	PlanPowe	Planet Power	2018	nWP
AMJ	America's Musical Journey	2018	3D	Rescue	Rescue 3D	2011	K2
AMMM	Amazing Mighty Micro Monsters 3D	2016	nWP	RME	Rocky Mountain Express	2011	SLC
AncCaves	Ancient Caves	2020	3D	SeaLion	Sea Lions: Life by a Whisker	2020	3D
Angkor	Angkor: Lost Empire of Cambodia	2020	3D	SeaMorst	Sea Monsters: A Prehistoric Adventure	2007	CPD
AntarcSK	Antarctica	2020	K2	SeaTurtl	Sea Turtles 3D	2014	3DED
AsterHunt	Asteroid Hunters	2020	3D	SFLIS	Search for Life In Space, The	2016	MFF
BackWild	Backyard Wilderness	2018	3D	SubSD	Son of Bigfoot 3D, The	2018	nWP
BeauPlan	Beautiful Planet, A	2016	3D	SOE	Story of Earth, The	2018	DMD
BeaversDC	Beavers: The Director's Cut	2019	3D	SpaceNex	Secrets of the Universe	2019	K2
BFJ	Bigfoot Junior 3D	2020	3D	Space Sta	Space Next 3D	2015	B8D
BFTB	Back From the Brink	2019	3D	SpacJunk	Space Station	2002	3D
BTBW	Born to Be Wild	2011	3D	SupDogs	Space Junk	2012	K2
ConqOTS	Conquest of the Skies	2017	3D	TinyGian	Tiny Giants 3D	2019	IMAX
Cuba	Cuba	2019	3D	TOTIA	Titans of the Ice Age	2013	GSF
D-Day	D-Day: Normandy 1944	2014	K2	Trolley	Trolley, The	2018	SLC
DinoAliv	Dinosaurs Alive	2007	3D	TurtOdyns	Turtle Odyssey	2018	SKF
DOA	Dinosaurs of Antarctica	2020	3D	UnderSea	Under The Sea 3D	2009	IMAX
Dolphins	Dolphins	2000	MFF	UWT3D	Ultimate Wave Tahiti 3D, The	2010	K2
DreamBig	Dream Big: Engineering Our World	2017	3D	Volcanoes	Volcanoes: The Fires of Creation	2018	SKF
DS3D	Deep Sea 3D	2006	IMAX	WildAfri	Wild Africa 3D	2015	GSF
Everest	Everest	1998	MFF	WildAmer	Wild America	2014	SLC
ExpChesa	Expedition Chesapeake	2019	B&D	WWDP3D	Walking With Dinosaurs: Prehistoric Planet 3D	2014	GSF
ExtWeat	Extreme Weather	2016	3D	Yell	Yellowstone	1994	GSF
FightPil	Fighter Pilot: Operation Red Flag	2004	3D				
FOTB	Flight of the Butterflies	2012	3D				
G3DNW	Galapagos 3D: Nature's Wonderland	2014	nWP				
GBR3D	Great Barrier Reef	2018	3D				
GRBF	Great Bear Rainforest	2019	3D				
GC	Grand Canyon: The Hidden Secrets	1985	DCI				
GWS	Great White Shark	2013	3D				
HCBTD	Hearst Castle: Building the Dream	1996	DCI				
HiddPac	Hidden Pacific	2019	3D				
Hubble3D	Hubble 3D	2010	3D				
HumpackWha	Humpback Whales	2015	3D				
IAW	Into America's Wild	2020	3D				
IncrPred	Incredible Predators	2016	3D				
IOLM	Island of Lemurs: Madagascar	2014	3D				
ISR	In Saturn's Rings	2018	B&D				
Jerusale	Jerusalem	2013	3D				
JTM	Journey to Mecca	2009	CPD				
JTS	Journey to Space	2015	3D				
JTTSP	Journey to the South Pacific	2013	3D				
L&C	Lewis & Clark: Great Journey West	2002	K2				
LastReef	Last Reef, The	2012	3D				
LITAOA	Living in the Age of Airplanes	2015	CPD				
LOF	Legends of Flight	2010	K2				
MA	Museum Alive 3D	2016	nWP				
MAOAB	Mountain Adventure: Out of Bounds	2019	3D				
MJTTM	Michael Jordan To the Max	2000	GSF				
MOF	Magic of Flight, The	1997	MFF				
MOTUW	Mysteries of the Unseen World	2013	3D				
Mummies	Mummies: Secrets of the Pharaohs	2007	GSF				
Niagara	Niagara: Miracles, Myths, and Magic	1987	DCI				
NPA	National Parks Adventure	2016	MFF				

Sept.-Oct. 2020 Bookings Count

#	Film		#	Film		#	Film		#	Film
16	SupDogs		3	GRBF3D		2	SeaLion		1	LastReef
12	GRBF		3	Hubble3D		2	SFLIS		1	LITAOA
11	AsterHunt		3	HumpWha		2	SOBD3D		1	LOF
10	A11FSE		3	JTTSP		2	TinyGian		1	MA
9	NPA		3	Pandas		2	SupDogs		1	MAOAB
9	TurtOdyns		3	SOTU		1	Angkor		1	MJTTM
8	IAW		3	SpacJunk		1	AntarcSK		1	MOTUW
7	G3DNW		3	UnderSea		1	BeaversDC		1	Mummies
6	AfricAdv		2	ACGOTS		1	BFJ		1	Niagara
6	OOBP		2	AGWN		1	ConqOTS		1	Ocean3D
6	Volcanoes		2	AmazAdve		1	Dolphins		1	Ozarks
5	JTS		2	1	Everest		1	WildAfri		1
5	AMJ		2	1	Rescue		1	WildAmer		1
5	AncCaves		2	1	ExpChesa		1	SeaMonst		1
5	BFTB		2	1	ExtWeat		1	SeaTurtl		1
5	DOA		2	1	GC		1	SOE		1
5	HiddPac		2	1	GWS	</				

Directory of Organizations Mentioned in this Issue of LF Examiner

Distributors' abbreviations are listed in **bold**.

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<p>IMAX Victoria in the Royal BC Museum 675 Belleville Street Victoria, BC V8W 1A1 CANADA Tel: 250-953-4629 Fax: 250-480-4830 imaxvictoria.com/</p> <p>K2 Studios K2 880 Apollo Street, Suite 239 El Segundo, CA 90245 Tel: 310-524-9100 Fax: 310-524-1540 www.k2communications.com/</p> <p>MacGillivray Freeman Films, Inc. MFF PO Box 205 Laguna Beach, CA 92652 Tel: 949-494-1055 Fax: 949-494-2079 macgillivrayfreeman.com/</p> <p>Malco Theatres Inc. PO Box 171809 Memphis, TN 38120 Tel: 901-761-3480 Fax: 901-681-2044 www.malco.com/</p> <p>McWane Science Center 200 19th Street N Birmingham, AL 35203-3116 Tel: 205-714-8300 Fax: 205-714-8400 www.mcwane.org/</p> <p>Milbrand Cinema 24780 Highland Way Los Gatos, CA 92033 milbrandcinema.com/</p> <p>Mirage 3D Lekstraat 156 The Hague, 2515VZ NETHERLANDS Tel: +31-7-345-7500 mirage3d.nl/</p> <p>Moonraker VFX Ltd The Courtyard, 26 Oakfield Road Bristol, BS8 2AT UK Tel: +44 (0)117 403 0185 moonrakervfx.com/</p> <p>Museum of Science and Industry 5700 S. Lake Shore Drive Chicago, IL 60637 Tel: 773-684-1414 Fax: 773-684-5678 www.msichicago.org/</p>	<p>National Air and Space Museum 6th & Independence Ave. SW Washington, DC 20560 Tel: 202-357-1675 Fax: 202-357-1652 airandspace.si.edu/</p> <p>National Naval Aviation Museum 1750 Radford Ave, Suite B NAS Pensacola, FL 32508 Tel: 800-327-5002 Fax: 850-457-3032 www.navalaviationmuseum.org/</p> <p>National Science Foundation 2415 Eisenhower Avenue Alexandria, VA 22314 Tel: 703-292-8600 www.nsf.gov/</p> <p>nWave Pictures 4747 W Avenue L2 Quartz Hill, CA 93536 Tel: 818-565-1010 Fax: 818-565-1161 www.nwave.com/</p> <p>Oceanic Research Group PO Box 94 North Reading, MA 01864 Tel: 978-664-9091 www.oceanicresearch.org/</p> <p>Omniversum P.O. Box 30.313 Hague, 2500 GH NETHERLANDS Tel: +31 70 307 3456 Fax: +31 70 307 3450 www.omniversum.nl/nl</p> <p>Ouragan Films La Marie Louise, Route de Cazan Pelissanne, 13330 FRANCE Tel: +44-4 95 06 80 68 www.ouragan-lefilm.com/</p> <p>Panavision Inc. 6219 De Soto Avenue Woodland Hills, CA 91367 Tel: 818-316-1000 Fax: 818-316-1021 www.panavision.com/</p> <p>Planetario Alfa Roberto Garza Sada #1000 Fracc. Carrizalejo Garza Garcia, NL 66254 MEXICO Tel: +52-81-8303-0001 Fax: +52-81-8303-0015 www.planetarioalfa.org.mx/</p>	<p>Prasad Corporation 711 S Main Street Burbank, CA 91506 Tel: 323-463-6500 www.prasadcorp.com/</p> <p>RED Studios 846 N. Cahuenga Blvd. Los Angeles, CA 900387 Tel: 323-463-0808 www.red.com/</p> <p>Regal Cinemas 101 East Blount Avenue Knoxville, TN 37920 Tel: 865-922-1123 Fax: 865-922-3188 www.regmovies.com/</p> <p>Royal British Columbia Museum PO Box 9815 Stn Prov Govt Victoria, BC V8W 9W2 CANADA Tel: 250-387-3701 Fax: 250-356-8197 royalbcmuseum.bc.ca/</p> <p>Sean Casey Productions Los Angeles, CA</p> <p>Sinking Ship Entertainment 1179 King Street West, Suite 302 Toronto, ON M6K 3C5 CANADA www.sinkingship.ca/</p> <p>SK Films, Inc. SKF Pinewood Toronto Studios 225 Commissioners Street, Suite 303 Toronto, ON M4M 0A1 CANADA Tel: 416-367-0440 Fax: 647-837-3350 skfilms.ca/</p> <p>Smithsonian Institution 1000 Jefferson Drive, SW Washington, DC 20560 www.si.edu/</p> <p>Sony Electronics 5655 Silver Creek Valley Road M/D #371 San Jose, CA 95138-2473 Tel: 408-955-4289 Fax: 408-532-8325</p> <p>Stephen Low Company 795 Carson Ave, Suite 6 Dorval, QC H9S 1L7 CANADA Tel: 514-633-6036 Fax: 514-633-6035 www.stephenlow.com/</p>	<p>Swedish Museum of Natural History Frescativagen 40 PO Box 50007 Stockholm, 10405 SWEDEN Tel: +46-8-5195-5101 Fax: +46-8-5195-5100 www.nrm.se/</p> <p>Tech Interactive 201 South Market Street San Jose, CA 95113-2008 Tel: 408-294-8324 Fax: 408-279-7167 www.thetech.org/</p> <p>Terra Mater Factual Studios GmbH Wambachergasse 2 Vienna, Vienna 1130 Austria Tel: +43 1 87003 27628 www.terramatser.at/</p> <p>Universal Cinema AMC at CityWalk Hollywood 100 Universal City Plaza Universal City, CA 91608 Tel: 818-508-0711 www.amctheatres.com/</p> <p>Virginia Air and Space Science Center 600 Settlers Landing Road Hampton, VA 23669 Tel: 757-727-0900 Fax: 757-727-0898 www.vasc.org/</p> <p>White Mountain Films 165 East 80th Street New York, NY 10021 Tel: 212-249-6508 Fax: 212-794-2993 www.whitemountainfilms.com/</p> <p>Wild Pacific Media 38 Driver Ave Moore Park, NSW 2021 AUSTRALIA Tel: +61-433 801 221 www.wildpacificmedia.com/</p>
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SHORTS

Tenet: \$334M in eight weeks

Christopher Nolan's long-awaited sci-fi thriller *Tenet* opened in late August and early September on more than 20,000 screens worldwide, including 1,033 IMAX screens, of which eight ran 15/70 film prints. As of the third week of October the film had grossed over \$334 million worldwide, but since its production budget was \$200 million and its marketing budget a sizeable fraction of that, it may end up being one of Nolan's least financially successful films.

Tenet was the trailblazer for major studio releases as theater closures due to the coronavirus began to end, but its performance appears to have led Hollywood to push back other tentpole titles originally set to open this summer, such as *Wonder Woman 1984* (now Dec. 25), *No Time to Die* (April 2, 2021), and *Top Gun: Maverick* (July 2, 2021). This in turn has led some major cinema chains to re-close their theaters. (See *Coronavirus* article on page I.)

After *Tenet*'s opening weekend in North America, **Imax Corporation** reported that the film earned \$2.8 million from domestic screens and \$5.3 million in IMAX theaters in China, 18% of box office on 1% of screens. The company touted it as the "biggest Labor Day opening weekend ever at the North American box office for IMAX," a record of dubious value, since only one previous title has opened on that weekend: the IMAX-only release of the pilot episode of **Marvel**'s TV series *Inhumans* in 2017. It grossed \$1.5 million on 393 screens, and was widely regarded as a disaster.

As we reported in the Summer issue, only eight theaters opened day-and-date with 15/70 prints of *Tenet*:

Cineplex Cinemas Mississauga, Mississauga, ON, CANADA
Saskatchewan Science Centre, Regina, SK, CANADA
Ontario Place Corporation, Toronto, ON, CANADA
KrungSri IMAX Paragon CinePlex, Bangkok, THAI LAND
BFI IMAX Theater, London, UK

Michigan Science Center, Detroit, MI, USA
Museum of Discovery and Science, Fort Lauderdale, FL, USA
Indiana State Museum, Indianapolis, IN, USA

Of these, only the Regina theater had previously been using its 15/70 projector regularly and exclusively. All but one of the others also have IMAX digital systems that run the majority of their shows. The Detroit theater had been dark since early 2018, and the Bangkok theater had not used its 15/70 projector since 2012. **Esquire IMAX** in Sacramento (owned and operated by Imax Corp.) started running



The IMAX theater at the Virginia Air & Space Science Center is getting new seats, flooring, screen, and lighting.

its 15/70 print on Oct. 8.

Four other theaters were expected to get prints, but local authorities in California, New York, and Victoria, Australia, have not yet permitted theaters to reopen. Australia's **IMAX Theatre Melbourne** has tentatively set Nov. 23 as the date it will reopen with *Tenet* in both film and IMAX laser, but that could change in either direction. Manager **Richard Morrison** tells *LFX* that their print is "made up, tested, and ready to go," adding, "I've even finally learnt how to thread up and run the 15/70 projector during this prolonged closure, so will take an active role in running *Tenet* when we finally open."

Even if *Tenet* has ended its run elsewhere by the time California theaters reopen, the **Universal Cinema AMC at City**

Walk will probably have a 15/70 run for the sake of Los Angeles' large community of filmmakers and film buffs. But it's not clear whether that will also be true for the other two U.S. theaters that were expected to get prints: **AMC Lincoln Square 13** in New York City and **AMC Metreon** in San Francisco.

VASC begins IMAX renovations

On Aug. 31, the **Virginia Air and Space Center** in Hampton, VA, closed its doors to begin a \$1.5 million upgrade of its IMAX theater and its Space Explorer Gallery. The gallery will get new interactive exhibits, and the theater will get a new screen, seats, flooring, lighting, and its ten-year-old IMAX 2K digital projection system will get new light engines. The work is expected to be completed by mid-November.

In an exclusive to *LFX*, **Bob Griesmer**, executive director and CEO, said that "the real big news is that we are changing our name to the **Virginia Air & Space Science Center**...to more accurately reflect our mission and the visitor experience. Science centers are more strategically positioned in the market for success and our effort at this time is come out of this period of disruption with great clarity and precision regarding our role in the community."

Prasad launches 14K scanning

Prasad Corporation has announced that it is offering 14K scanning of 65mm and 70mm footage using the new OXscan65 scanner it has developed with subsidiary **Digital Film Technology GmbH**. The scanner uses a native 14K CMOS sensor and RGB LED illumination to scan 5-, 8-, or 15-perf footage at up to 2.4 frames per second at 14K and 3.3 fps for 12K at a bit depth of 16 bits. It can scan 65mm negatives and 70mm positives and output all standard file formats, including TIFF, DPX, and EXR.

Headquartered in Burbank, CA, Prasad offers a wide range of post-production, digitization, and restoration services. It acquired Germany-based DFT in 2011.